

Effects of NRCS Conservation Practices - National

Irrigation System, Tailwater Recovery

A planned irrigation system in which all facilities utilized for the collection, storage, and transportation of irrigation tailwater and/or rainfall runoff for reuse have been installed

Code: 447

Units: no.

Typical Landuse:

AL-Aso Land
 O-Other
 W-Water
 D-Developed
 FS-Farmstead
 Pr-Protected
 P-Pasture
 R-Range
 F-Forest
 C-Crop
 C F R P Pr FS D W O AL

<u>Soil Erosion</u>	<u>Effect</u>	<u>Rationale</u>
Soil Erosion - Sheet and Rill Erosion	0	Not Applicable
Soil Erosion - Wind Erosion	0	Not Applicable
Soil Erosion - Ephemeral Gully Erosion	1	Tailwater is safely conveyed to a recovery site, therefore reducing concentrated flow.
Soil Erosion - Classic Gully Erosion	1	Tailwater is eliminated from gully.
Soil Erosion - Streambank, Shoreline, Water Conveyance C	1	Tailwater is eliminated from over land flow.
<u>Soil Quality Degradation</u>		
Organic Matter Depletion	0	Not Applicable
Compaction	-1	Increased soil moisture in the profile may result in increased compaction during field operations.
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	-1	Reuse of contaminated water increases salts in the profile.
<u>Excess Water</u>		
Excess Water - Seeps	-1	Possible seepage from pit.
Excess Water - Runoff, Flooding, or Ponding	1	Recovery and storage of tailwater eliminates runoff and ponding.
Excess Water - Seasonal High Water Table	-1	Seepage from pit.
Excess Water - Drifted Snow	0	Not Applicable
<u>Insufficient Water</u>		
Insufficient Water - Inefficient Use of Irrigation Water	2	Storage and reuse can increase available water.
Insufficient Water - Inefficient Moisture Management	0	Not Applicable
<u>Water Quality Degradation</u>		
Pesticides in Surface Water	2	The action retains pesticide residues for degradation.
Pesticides in Groundwater	2	Seepage that may contain pesticide residues is controlled.
Nutrients in Surface water	2	The action traps nutrients and organics.
Nutrients in Groundwater	-1	Nutrients impounded could contaminate groundwater.
Salts in Surface Water	1	The infiltration that occurs in the tailwater pond will reduce the amount of salt leaving the field.
Salts in Groundwater	-1	The action results in water reuse, which concentrates the contaminants in water that infiltrates.
Excess Pathogens and Chemicals from Manure, Bio-solic	1	Because of reduced sediment yields and runoff
Excess Pathogens and Chemicals from Manure, Bio-solic	0	The action reuses irrigation water that may have higher levels of pathogens.

Excessive Sediment in Surface Water	1	Sediment is trapped as water velocity is reduced.														
Elevated Water Temperature	0	Warm surface irrigation water is re-used rather than discharged to streams or other water bodies.														
Petroleum, Heavy Metals and Other Pollutants Transport	4	The action captures irrigation runoff and associated metal-laden sediment.														
Petroleum, Heavy Metals and Other Pollutants Transport	-1	The action reuses irrigation water that may have higher levels of heavy metals.														
<u>Air Quality Impacts</u>																
Emissions of Particulate Matter (PM) and PM Precursors	0	Not Applicable														
Emissions of Ozone Precursors	0	Not Applicable														
Emissions of Greenhouse Gases (GHGs)	0	Not Applicable														
Objectionable Odors	0	Not Applicable														
<u>Degraded Plant Condition</u>																
Undesirable Plant Productivity and Health	2	Increased water availability and managed application enhances plant growth, health and vigor.														
Inadequate Structure and Composition	0	Not Applicable														
Excessive Plant Pest Pressure	0	Not Applicable														
Wildfire Hazard, Excessive Biomass Accumulation	0	Not Applicable														
<u>Fish and Wildlife - Inadequate Habitat</u>																
Inadequate Habitat - Food	0	Not Applicable														
Inadequate Habitat - Cover/Shelter	0	Not Applicable														
Inadequate Habitat - Water	0	Water is temporarily provided during the irrigation season.														
Inadequate Habitat - Habitat Continuity (Space)	0	Not Applicable														
<u>Livestock Production Limitation</u>																
Inadequate Feed and Forage	0	Not Applicable														
Inadequate Shelter	0	Not Applicable														
Inadequate Water	0	Not Applicable														
<u>Inefficient Energy Use</u>																
Equipment and Facilities	0	Not Applicable														
Farming/Ranching Practices and Field Operations	2	Reuse of tailwater runoff will result in reduced energy use for pumping.														
		<table border="1"> <thead> <tr> <th colspan="2"><u>CPPE Practice Effects:</u></th> </tr> </thead> <tbody> <tr> <td>5 Substantial Improvement</td> <td>0 No Effect</td> </tr> <tr> <td>4 Moderate to Substantial Improvement</td> <td>-1 Slight Worsening</td> </tr> <tr> <td>3 Moderate Improvement</td> <td>-2 Slight to Moderate Worsening</td> </tr> <tr> <td>2 Slight to Moderate Improvement</td> <td>-3 Moderate Worsening</td> </tr> <tr> <td>1 Slight Improvement</td> <td>-4 Moderate to Substantial Worsening</td> </tr> <tr> <td></td> <td>-5 Substantial Worsening</td> </tr> </tbody> </table>	<u>CPPE Practice Effects:</u>		5 Substantial Improvement	0 No Effect	4 Moderate to Substantial Improvement	-1 Slight Worsening	3 Moderate Improvement	-2 Slight to Moderate Worsening	2 Slight to Moderate Improvement	-3 Moderate Worsening	1 Slight Improvement	-4 Moderate to Substantial Worsening		-5 Substantial Worsening
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